

08/552366

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

KLAUS W. HARTIG, STEVEN L.
LARSON AND PHILIP J. LINGLE

Group Art Unit: (Unknown)

Serial No.: (Unknown)

Examiner: (Unknown)

Filed: (Herewith)

Atty. Dkt. No.: 12372.290

For: NEUTRAL, HIGH PERFORMANCE,
DURABLE LOW-E GLASS COATING:
SYSTEM, INSULATING GLASS
UNITS MADE THEREFROM, AND
METHOD OF MAKING SAMEINFORMATION DISCLOSURE STATEMENT
PURSUANT TO 37 C.F.R. §§1.97 AND 1.56Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

Sir:

JUN 24 1996

OFFICE OF PATENTS
A/C PATENTS

Now come Applicants and make the following Information
Disclosure Statement in accordance with 37 C.F.R. §1.97 and
§1.56:

The most relevant prior art of which Applicants is aware is
discussed in summary form in the BACKGROUND OF THE INVENTION
section of the above-identified application. The relevant
references are as follows, and are more appropriately listed on
the PTO-1449 form attached hereto:

<u>U.S. PATENT NO.</u>	<u>INVENTOR</u>	<u>ISSUED</u>
3,272,986	Schmidt	9/66
3,649,359	Apfel, et al.	3/72
3,682,528	Apfel, et al.	8/72
3,698,946	Kaspaul, et al.	10/72
3,846,152	Franz	11/74
3,889,026	Groth	6/75
3,900,673	Mattimoe, et al.	8/75



3,901,997	Groth	8/75
3,962,488	Gillery	6/76
3,978,273	Groth	8/76
3,990,784	Gelber	11/76
4,179,181	Chang	12/79
4,204,942	Chashroudi	5/80
4,335,166	Lizardo, et al.	6/82
4,337,990	Fan, et al.	7/82
4,356,073	McKelvey	10/82
4,422,916	McKelvey	12/83
4,462,883	Hart	7/84
4,488,775	Yamamoto	12/84
4,556,277	Fan, et al.	12/85
4,639,069	Yatabe, et al.	1/87
4,716,086	Gillery, et al.	12/87
4,780,372	Tracy, et al.	10/88
4,786,784	Nikodem, et al.	11/88
4,799,745	Meyer, et al.	1/89
"	(Reexam. Cert.)	1/92
4,943,484	Goodman	7/90
5,229,194	Hartig, et al.	7/93
5,296,302	O'Shaughnessy et al.	3/94
5,302,449	Eby, et al.	4/94
5,318,685	O'Shaughnessy et al.	6/94
5,332,888	Tausch, et al.	7/94
5,344,718	Hartig, et al.	9/94
5,377,045	Wolfe, et al.	12/94

PCT WO 90/05439, Tausch et al., 5/17/90
 EPO # 031278, issued 12/80
 EPO #0080182, issued 6/83
 British Patent No. 2,027,223, issued 2/80 (Masso
 Class 359, subclass 360)

Knittl, Zdenek "Optics of Thin Films", John Wiley & Sons
 Ltd., London, 1976 p. 284

Airco Coating Technology, Super-E III, 1/91, p. 1-22 (Redacted
 form - full form in sealed envelope accompanying Petition to
 Expunge)

Airco Coating Technology, Super-E IV, (1994?), p. 1-23 (Redacted
 form - full form in sealed envelope accompanying Petition to
 Expunge)

VIRACON, "Solarscreen 2,000™" NEW PRODUCT BULLETIN (4 pages),
 1994

VIRACON, "Solarscreen 2,000 on TINTED SUBSTRATES (1 page), 1994

ASTM E424-71 "Standard Test Methods for Solar Energy Transmittance and Reflectance (Terrestrial) of Sheet Materials", 4/15/71

1991 Proposed ASTM Standard (Primary Glass Manufacturer's Council) for Measurement of Infrared Energy (2,500 - 40,000 nm) to Calculate Emittance, 11/8/91

ASTM E308-85 "Standard Method for Computing the Colors of Objects by Using the CIE System", 2/22/85

ASTM D2244-93 "Standard Test Method for Calculation of Color Differences From Instrumentally Measured Color Coordinates", 9/15/93

A copy of each of these references accompanies this I.D.S. As documents, they speak for themselves and, as such, Applicants request that the Examiner carefully study them rather than relying upon the summary nature of the discussion concerning them in the aforesaid application. These references are reflective of the state-of-the-art at the time our invention was made.

Further disclosure, without citation of reference, is made to the general fact, known in the art that Si_3N_4 can be used as a coating in transmissive glasses for its scratch-resistance and anti-reflectance characteristics, among others. Still further disclosure is made by way of the commercial Cardinal and Airco products referenced in the application filed herewith as well as the confidential documents regarding this Airco product submitted under a Petition to Expunge, but presented herewith in open record, but in redacted form.

Further appended hereto for the Examiner's consideration is a copy of ASTM E-424-71(E1) and the 1991 Proposed ASTM Standard (Proposed by the Primary Glass Manufacturers' Council) for

measurement of the near and far (referred to as the mid-range) infrared energy spectrum (i.e. 2,500 - 40,000nm). The first ASTM Standard is applicable to the calculation of transmittance and reflectance as reported in our application. In addition, ASTM E308-85 and ASTM D2244-93 are also provided.

Further provided are four (4) literature articles regarding measurement techniques as employed in the above-identified application:

- 1) WINDOW 4.1 LBL-35298 (March 1994)
- 2) NFRC 301-93 "STANDARD TEST METHOD FOR EMITTANCE OF SPECULAR SURFACES USING SPECTROMETRIC MEASUREMENTS" (Jan. 1993)
- 3) NFRC 100-91 "Procedure for Determining Fenestration Product Thermal Properties (Currently Limited to U-values) (1991)
- 4) NFRC 200-93: "Procedure for Determining Fenestration Product Solar Heat Gain Coefficients at Normal Incidence" (Jan. 1993)

Respectfully submitted,

Date: Nov. 2, 1995


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Date: Nov. 2, 1995


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Date: Nov. 2, 1995


Philip J. Lingle